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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/022,430

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Xiaoyun Hu

85773-382

4287

28291 7590 02/21/2007  
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CANADA

EXAMINER

WANG, TED M

ART UNIT

PAPER NUMBER

2611

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

02/21/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/022,430

Applicant(s)

HU ET AL.

Examiner

Ted M. Wang

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 November 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-18,20,21,23-33 and 35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,21 and 23-25 is/are rejected.
- 7) ☒ Claim(s) 6-18,20,26-33 and 35 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments, filed on 11/29/2006, with respect to the rejection of claims 1, 3-18, 20, 21, 23-33 and 35 under 35 USC 103(a) has been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Van Nee (US 6,175,550) and Feher (US 6,665,348).

### ***Claim Rejections - 35 USC § 102***

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1, 21 and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Van Nee (US 6,175,550).

- With regard claims 1, 21 and 23, Van Nee discloses a variable bandwidth transmission device comprising:

- a) a first input (Fig.1 element 11 input, HELP) for receiving a message bearing signal characterized by a bandwidth that is variable (column 3 line 66 – column 4 line 17);
- b) a second input for receiving a bandwidth control signal characterized by a frequency (Fig.1 element 17 output to element 16, IFFT, input);
- c) a filtering stage (column 4 lines 49-53) for processing the message bearing signal (Fig.1 element HELP) and the bandwidth control signal (Fig.1 element 17 output to element 16, IFFT, input) to generate an output signal characterized by a bandwidth (Fig.1 element 20 output), said filtering stage being responsive to a change of frequency of the bandwidth control signal to alter the bandwidth of the output signal (column 4 lines 49-53);
- d) a bandwidth control signal source connected to said second input for supplying the bandwidth control signal (Fig.1 element 17 and column 4 lines 58-67); and
- e) control logic (Fig.1 element 15) coupled to said bandwidth control signal source (Fig.1 element 17), said control logic being operative for detecting a change of the bandwidth of the message bearing signal and for causing said bandwidth control signal source to change the frequency of the bandwidth control signal on a basis of the detected change (column 4 lines 18-67).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3-5, 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable Van Nee (US 6,175,550) in view of Feher (US 6,665,348).

- With regard claim 3, Van Nee discloses all of the subject matter as described in the above paragraph except for specifically teaching the filter in the filtering stage is characterized by a Nyquist bandwidth.

However, Feher teaches a transmitter front end (Fig.10A) comprises a Nyquist filter with a variable bandwidth (column 20 line 49 – column 21 line 24), in order to reduce the ISI (column 20, lines 49-56).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a Nyquist filter with a variable bandwidth as taught by Feher, into filtering circuit of Van Nee's transmitter front end (Fig.1 element 22, RF TX) to reduce the ISI and consequently improve the communication quality.

- With regard claims 4 and 24, Van Nee discloses all of the subject matter as described in the above paragraph except for specifically teaching wherein filtering stage includes a first spectral shaping filter and a second spectral shaping filter.

However, Feher teaches wherein filtering stage includes a first spectral shaping filter (Fig.10A element 10a.2) and a second spectral shaping filter (Fig.10A element 10a.4) in order to reduce the ISI (column 20, lines 49-56).

Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention was made to include the filtering stage having a first spectral shaping filter and a second spectral shaping filter as taught by Feher, into filtering circuit of Van Nee's transmitter front end (Fig.1 element 22, RF TX) to reduce the ISI and consequently improve the communication quality.

- With regard claims 5 and 25, Van Nee discloses all of the subject matter as described in the above paragraph except for specifically teaching said filtering stage includes band pass filters.

However, Feher teaches said filtering stage includes band pass filters (Fig.10A element 10a.2) in order to reduce the ISI (column 20, lines 49-56).

Therefore, It would have been obvious to one of ordinary skill in the art at the time of the invention was made to include the filtering stage

having a bandpass filter as taught by Feher, into filtering circuit of Van Nee's transmitter front end (Fig.1 element 22, RF TX) to reduce the ISI and consequently improve the communication quality.

***Allowable Subject Matter***

5. Claims 6-18, 20, 26-33 and 35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten to overcome the objection(s) set forth in this Office action and rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted M. Wang whose telephone number is 571-272-3053. The examiner can normally be reached on M-F, 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ted M. Wang

A handwritten signature in black ink, appearing to be 'Ted M. Wang', written over a horizontal line.

Ted M Wang  
Examiner  
Art Unit 2634